IN THE CLAIMS:

Claims 1-32 are pending. Please amend the claims as shown in the following claim listing.

CLAIM LISTING:

1. (Currently Amended) A filtration cartridge comprising:

a housing having an inlet and an outlet; and

one or more membranes located between the inlet and the outlet;

sealing means forming ~~so as to form~~ a liquid-tight seal between the one or more membranes and the outlet;

such that an integral filtration device is formed, wherein all fluid must pass through the one or more membranes from the inlet to the outlet; and

wherein the seal and the one or more membranes are formed of perfluorinated thermoplastic resin ~~by thermally induced phase separation~~, and

wherein the sealing means has a melting point equal to or less than that of the membrane resin ~~said one or more membranes being formed by liquid-liquid phase separation~~.

2. (Currently Amended) A filtration cartridge comprising:

a housing having an inlet and an outlet,

a pleated filtration membrane located between the inlet and the outlet within the housing,

the membrane being ~~sealably~~ joined within the housing by a sealing member, such that all fluid must pass from the inlet of the housing through the membrane before reaching the outlet,

wherein the housing, the sealing member and the membrane are formed of one or more perfluorinated thermoplastic resins ~~by thermally induced phase separation~~, and

wherein the sealing member has a melting point equal to or less than that of the membrane resin ~~said one or more membranes being formed by liquid-liquid phase separation~~.

3. (Currently Amended) A filtration cartridge comprising:

a housing having an inlet and an outlet,

a filtration membrane comprising of a plurality of hollow fibers,

said hollow fibers having at least one end of the fibers potted with a sealing member into an unitary integral block,

wherein the filtration membrane is sealed within the housing such that all fluid entering through the inlet must pass through the membrane before reaching the outlet and

wherein the housing, the sealing member and membrane ~~and block~~ are all formed of one or more perfluorinated thermoplastic resins by thermally induced phase separation, and

wherein the sealing member has a melting point equal to or less than that of the membrane resin ~~said one or more membranes being formed by liquid-liquid phase separation~~.

4. (Currently Amemded) A filtration cartridge comprising:

a housing having an outlet and an inlet,

a membrane formed of one or more fibers wound around an axis so as to form a depth filter,

wherein the membrane is sealed by a sealing member within the housing such that all fluid entering the inlet must pass through the membrane before reaching the outlet and

wherein the housing, the sealing member and the membrane are formed of one or more perfluorinated thermoplastic resins ~~by thermally induced phase separation~~, and

wherein the sealing member has a melting point equal to or less than that of the membrane resin ~~said one or more membranes being formed by liquid-liquid phase separation~~.

5. (Previously Presented) The cartridge of claims 1, 2, 3 or 4 wherein the perfluorinated thermoplastic resin is poly (TFE-co-PFAVE).

6. (Previously Presented) The cartridge of claims 1, 2, 3 or 4 wherein the perfluorinated thermoplastic resin is selected from the group consisting of poly (tetrafluoroethylene-co-perfluoro (alkylvinylether)), poly (tetrafluoroethylene-co-hexafluoropropylene)) and blends thereof.

7. (Previously Presented) The cartridge of claims 1, 2, 3 or 4 wherein the perfluorinated thermoplastic polymer is poly (tetrafluororethylene)-co- perfluoro (alkylvinylether)) and the alkyl is selected from the group consisting of propyl, methyl and blends of propyl and methyl.

8. (Previously Presented) The cartridge of claim 1 wherein the membrane is selected from the group consisting of hollow fibers, flat sheets and wound fibers.

9. (Previously Presented) The cartridge of claims 1,2, 3 or 4 further comprising one or more end caps for the housing wherein the end caps are formed of perfluorinated thermoplastic resin.

10. (Previously Presented) The cartridge of claim 1 wherein the membrane is in the form of a flat sheet, said flat sheet membranes being formed into a shape selected from the group consisting of pleats, spirals and discs.

11. (Previously Presented) The cartridge of claim 1 wherein the membrane is a depth filter formed of one or more wound fibers.

12. (Previously Presented) The cartridge of claim 1 wherein the membrane is formed of a series of hollow fiber membranes having at least one end of said fiber membranes potted in a block of perfluorinated thermoplastic resin.

13. (Currently Amended) A filter cartridge made substantially of perfluorinated thermoplastic polymers comprising;

a) a perfluorinated thermoplastic polymer housing having an inlet and an outlet for fluid flow,

b) a perfluorinated thermoplastic polymer membrane filter ~~formed by thermally induced phase separation and liquid-liquid phase separation~~ positioned in said housing to filter a fluid containing filterable substances, said filter interposed between a fluid entering said housing inlet and said fluid exiting said housing outlet after being filtered, ~~said one or more membranes being formed of fibrils~~,

c) a perfluorinated thermoplastic polymer liquid tight seal to prevent said fluid entering the housing from mixing with said filtered fluid exiting the housing, said seal encapsulating a portion of said membrane filter and said seal having a melting point equal to or less than that of the membrane polymer.

14. (Previously Presented) The filter cartridge of Claim 13 wherein the membrane is a microporous membrane.

15. (Previously Presented) The filter cartridge of Claim 13 wherein the membrane is an ultrafiltration membrane.

16. (Previously Presented) The filter cartridge of Claim 13 wherein an end cap is liquid tightly joined to each end of the housing.

17. (Previously Presented) The filter cartridge of Claim 13 wherein the end caps and the housing form a unitary end structure.

18. (Previously Presented) The filter cartridge of Claim 13 through 17 wherein said perfluorinated thermoplastic polymer is selected from the group consisting of poly(tetrafluoroethylene-co-perfluoro(alkylvinylether)),poly(tetrafluoroethyleneco-hexafluoropropylene), and blends thereof.

19. (Previously Presented) The filter cartridge of Claim 18 wherein the alkyl of said poly(tetrafluoroethylene-co-perfluoro(alkylvinylether)) is selected from the group consisting of propyl, methyl, and blends of methyl and propyl.

20. (Previously Presented) The filter cartridge of Claim 13 wherein the seal material has a lower melting temperature than the melting or softening temperature of the material used to make the membrane.

21. (Previously Presented) The filter cartridge of Claim 13 wherein the melting or softening temperature of the seal material is at least about 5°C lower than the melting temperature of the material used to make the membrane.

22. (Previously Presented) The filter cartridge of Claim 13 wherein the melting temperature of the seal material is at least about 10°C lower than the melting or softening temperature of the material used to make the membrane.

23. (Currently Amended) A filter cartridge made substantially of perfluorinated thermoplastic polymers, said filter cartridge comprising a cylindrical form and further comprising;

a) a perfluorinated thermoplastic polymer housing having two ends, having at least one fluid inlet,

b) cylindrical perfluorinated thermoplastic polymer membrane filter ~~formed by thermally induced phase separation and liquid-liquid phase separation~~ arrangement having a generally annular form and having two ends, said membrane filter positioned in said housing to filter a fluid containing filterable substances,

c) a perfluorinated thermoplastic polymer liquid tight seal at each end of said membrane filter, said seal encapsulating a portion of said each end of said membrane filter,

d) at least one outlet communicating with the center of said cylindrical membrane filter through at least one of said liquid tight seals to recover fluid filtered by said membrane filter,

e) said seal further comprising a liquid tight junction with a portion of the entire periphery of the inner surface of the housing, and said seal having a melting point equal to or less than that of the membrane polymer.

24. (Previously Presented) The filter cartridge of Claim 23 wherein the membrane filter is a pleated membrane.

25. (Previously Presented) The filter cartridge of Claim 23 wherein said pleated membrane is supported by a perfluorinated thermoplastic fabric.

26. (Previously Presented) The filter cartridge of Claim 23 wherein the membrane is a microporous membrane.

27. (Previously Presented) The filter cartridge of Claim 23 wherein the membrane is an ultrafiltration membrane.

28. (Previously Presented) The filter cartridge of Claim 23 wherein an end cap is liquid tightly joined to each end of the housing.

29. (Previously Presented) The filter cartridge of Claim 28 wherein the end caps and the housing form a unitary end structure.

30. (Previously Presented) The filter cartridge of Claim 23 wherein said perfluorinated thermoplastic polymer is selected from the group consisting of poly(tetrafluoroethylene-co-perfluoro(alkylvinylether)),poly(tetrafluoroethyleneco-hexafluoropropylene), and blends thereof.

31. (Previously Presented) The filter cartridge of Claim 30 wherein the alkyl of said poly(tetrafluoroethylene-co-perfluoro(alkylvinylether)) is selected from the group consisting of propyl, methyl, and blends of methyl and propyl.

32. (Currently Amended) A filter cartridge made substantially of perfluorinated thermoplastic polymers comprising;

a) a perfluorinated thermoplastic polymer housing having two ends, having an inlet and an outlet, and having an inner surface and an outer surface,

b) a bundle of a plurality of perfluorinated thermoplastic hollow fiber membranes formed by thermally induced phase separation and liquid-liquid phase separation having a first end and a second end, said membranes having an outer surface and an inner surface, said inner surface comprising a lumen,

c) at least one of said ends of said bundle potted with a liquid tight perfluorinated thermoplastic seal wherein each fiber of said plurality is separately sealed and at least one of said bundle ends the fiber ends are open to fluid flow,

d) said seal further comprising a liquid tight junction with a portion of the entire periphery of the inner surface of the housing, and said seal having a melting point equal to or less than that of the membrane polymer.

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